

IN THE CLAIMS

1. (Withdrawn) Assembly comprising:

- a ring having anchoring elements for attaching the ring in a passage surrounded by

body tissue, in particular blood vessel tissue;

- an applicator for fitting the ring in the passage;

in which the anchoring elements have an anchoring position in which they protrude outwardly with respect to the ring; and

in which the anchoring elements comprise a memory material, such as a memory metal or memory polymer, and are designed so that they can be bent from an anchoring position counter to a spring force into a fitting position and can be frozen in this fitting position by a temperature treatment in order to bend the anchoring elements back from the fitting position by the effect of this spring force into the anchoring position when a predetermined threshold is exceeded; and

in which the applicator is provided distally with a carrier for carrying the ring; characterized in that,

the assembly is provided with an influencing system for influencing the temperature of the anchoring elements of the ring carried by the carrier in such a way that the anchoring elements bend back from the fitting position to the anchoring position by increasing the temperature of the anchoring elements to above the threshold temperature.

2. (Withdrawn) Assembly according to claim 1, wherein the influencing system comprises a cooling device for cooling the anchoring elements to a temperature below the threshold temperature.

3. (Withdrawn) Assembly according to claim 1, wherein the influencing system comprises a heating device for heating the anchoring elements to a temperature above the threshold temperature.
4. (Withdrawn) Assembly according to claim 1, wherein the part of the carrier contacting the ring is made of a metal, and wherein, the influencing system is connected in a heat exchanging manner to that part of the carrier contacting the ring or forms part of the carrier.
5. (Withdrawn) Assembly according to claim 1, wherein the influencing system comprises a Peltier element.
6. (Withdrawn) Assembly according to claim 1, wherein the influencing system comprises a channel for supplying a fluid, such as a liquid or gas, to the carrier.
7. (Withdrawn) Assembly according to claim 6, wherein the channel comprises at least one free outlet for bringing the fluid into contact with the anchoring elements or the ring.
8. (Withdrawn) Assembly according to claim 1, wherein the influencing system comprises a source for generating an alternating electromagnetic field, and wherein the carrier and/or the anchoring elements are designed in such a manner that they are sensitive to heating by the alternating electromagnetic field.
9. (Withdrawn) Assembly according to claim 8, wherein the source comprises at least one electrically conductive loop which can be connected to an alternating current source.
10. (Withdrawn) Assembly according to claim 9, wherein the loop surrounds a passage of a size such that the ring can be accommodated therein with play, the size of the passage being at least 1.2 times larger than that of the ring.
11. (Withdrawn) Assembly according to claim 1, wherein the carrier comprises gripper parts which can be moved between a position gripping the ring and a position releasing the ring.

12. (Withdrawn) Assembly according to claim 1, wherein the applicator comprises a sleeve which can slide along the applicator between a position overlapping the ring provided on the carrier and a position exposing the ring provided on the carrier.

13. (Withdrawn) Assembly according to claim 12, wherein the sleeve comprises a distal part which tapers in the distal direction to form a diameter which is smaller than that of the ring, and the distal part consists of axial fingers which can bend radially outwards from the tapering position in such a manner that [this] the tapering part of the sleeve can be displaced over the ring.

14. (Withdrawn) Assembly according to claim 12, wherein the sleeve is provided at its distal end with axial fingers and the ring is provided at its distal end with the anchoring elements, a space being left between neighbouring axial fingers and wherein the axial fingers are provided in such a manner that, when the ring is accommodated in the sleeve, each axial finger overlaps a respective distal anchoring element.

15. (Withdrawn) Assembly according to claim 14, wherein the ring is provided at its proximal end with a flange which extends radially outwards for interaction with the distal anchoring elements, and wherein the flange is provided with passages for those axial fingers.

16. (Withdrawn) Assembly according to claim 14, wherein the ring is provided with the anchoring elements at its proximal end, and wherein the proximal and distal anchoring elements are provided in a staggered manner with respect to each other, seen in the tangential direction of the ring, in such a manner that the axial fingers can overlap with the distal anchoring elements when they protrude through the proximal anchoring elements.

17. (Withdrawn) Assembly according to claim 1, wherein the composition of the material of the anchoring elements is chosen such that the threshold temperature is around or below the human body temperature.

18. (Withdrawn) Assembly according to claim 17, wherein the threshold temperature is in the range  $< 37.5^{\circ}\text{C}$ .

19. (Withdrawn) Assembly according to claim 17 wherein the threshold temperature is in the range 19°C to 37°C.
20. (Withdrawn) Assembly according to claim 1, wherein the influencing system is designed to be able to raise the temperature of the anchoring elements to at least 5 to 10°C above the threshold temperatures.
21. (Withdrawn) Assembly according to claim 1, wherein the influencing system is designed to maintain the temperature of the anchoring elements approximately 10 to 28°C below the threshold temperature.
22. (Withdrawn) Assembly according to claim 1, wherein the ring is provided with a valve prosthesis.
23. (Withdrawn) Assembly according to claim 22, wherein the valve prosthesis comprises one, two or more valve leaflets, and wherein the carrier is provided with a longitudinal member extending in the longitudinal direction, against which longitudinal member the valve leaflets of the valve prosthesis supported by the carrier rest in their open position.
24. (Withdrawn) Assembly according to claim 1, wherein the ring is a ring provided with further anchoring elements for attaching a valve prosthesis therein.
25. (Withdrawn) Assembly according to claim 1, wherein the ring is a valve reconstruction ring.
26. (Withdrawn) Assembly according to claim 1, wherein the ring is an anastomosis attachment ring.
27. (Withdrawn) Assembly according to claim 1, wherein the ring is provided with further anchoring elements for attaching a cannula and/or port and/or operating channel.
28. (Withdrawn) Assembly according to claim 1, wherein the assembly is fitted with one or more sensors and/or one or more marks distally, in particular near the carrier.
29. (Cancelled)
30. (Cancelled)

31. (Currently Amended) Heart valve prosthesis comprising:

- a ring member for attachment to a valve annulus ~~body tissue surrounding said ring;~~ and
- a constriction system ~~having comprising~~ anchoring pins for penetrating into the valve annulus ~~body tissue,~~

wherein the anchoring pins have a straight first position and a second position,

wherein, in the first position, the anchoring pins extend in an axial direction, and

wherein the anchoring pins being are arranged around the circumference of the ring member and are adapted to move, when after the pins have fully penetrated into the valve annulus body tissue, the pins from a the first penetrated position in a radial inward direction to a the second penetrated position to press the annulus correspondingly in the radial inward direction.

32. (Currently Amended) Prosthesis according to claim 31, wherein the pins are bent from the second ~~penetrated~~ position into the first ~~penetrated~~ position against a spring force and are fixed in the first ~~penetrated~~ position in a releasable manner such that upon release the pins return to the second ~~penetrated~~ position.

33. (Currently Amended) Prosthesis according to claim 31, wherein the constriction system further comprises a carrier, and wherein the pins are arranged on a the carrier which is adapted to shorten such that the pins move in radially inward direction.

34. (Previously Presented) Prosthesis according to claim 31, wherein the constriction system comprises a constriction ring element separate from the ring member and adapted to lie around the ring member.

35. (Currently Amended) Prosthesis according to claim 32, wherein the constriction system further comprises a carrier, and wherein the pins are arranged on a the carrier which is adapted to shorten such that the pins move in radially inward direction.

36. (Currently Amended) Prosthesis according to claim 34, wherein the pins are bent from the second ~~penetrated~~ position into the first ~~penetrated~~ position against a spring

force and are fixed in the first ~~penetrated~~ position in a releasable manner such that upon release the pins return to the second ~~penetrated~~ position.

37. (Currently Amended) Prosthesis according to claim 34 ~~33~~, wherein the pins are arranged on a ~~the earlier constriction ring element and wherein the constriction ring element is~~ adapted to shorten such that the pins move in a radially inward direction.

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Withdrawn) Prosthesis according to claim 32, wherein the prosthesis further comprises a mechanical restriction arranged to keep the pins temporarily in the first penetrating position.

42. (Withdrawn) Prosthesis according to claim 35, wherein the prosthesis further comprises a mechanical restriction arranged to keep the pins temporarily in the first penetrating position.

43. (Withdrawn) Prosthesis according to claim 36, wherein the prosthesis further comprises a mechanical restriction arranged to keep the pins temporarily in the first penetrating position.

44. (Previously Presented) Prosthesis according to claim 32, wherein the prosthesis comprises memory metal or memory plastic frozen in the first penetrating position to be released to go back to the second position when the temperature increases above a threshold temperature.

45. (Previously Presented) Prosthesis according to claim 35, wherein the prosthesis comprises memory metal or memory plastic frozen in the first penetrating position to be released to go back to the second position when the temperature increases above a threshold temperature.

46. (Previously Presented) Prosthesis according to claim 36, wherein the prosthesis comprises memory metal or memory plastic frozen in the first penetrating position to be

released to go back to the second position when the temperature increases above a threshold temperature.

47. (Previously Presented) Prosthesis according to claim 33, wherein the carrier comprises a radial arm for each pin, which radial arm can be shortened by memory effects of memory metal or memory plastic.

48. (Previously Presented) Prosthesis according to claim 35, wherein the carrier comprises a radial arm for each pin, which radial arm can be shortened by memory effects of memory metal or memory plastic.

49. (Currently Amended) Prosthesis according to claim 37, wherein the constriction ring carrier comprises a radial arm for each pin, which radial arm can be shortened by memory effects of memory metal or memory plastic.

50. (Currently Amended) Prosthesis according to claim 33, wherein the carrier comprises a carrier ring adapted to be reduced in diameter by use of memory effects of a memory metal or memory plastic.

51. (Currently Amended) Prosthesis according to claim 35, wherein the carrier comprises a carrier ring adapted to be reduced in diameter by use of memory effects of a memory metal or memory plastic.

52. (Currently Amended) Prosthesis according to claim 37, wherein the ~~carrier~~ comprises a ring constriction ring element is adapted to be reduced in diameter by use of memory effects of a memory metal or memory plastic.

53. (Previously Presented) Prosthesis according to claim 31, wherein the ring member is provided with a material enhancing ingrowth of tissue.

54. (Currently Amended) Prosthesis according to claim ~~34~~ 56, ~~wherein the ring member comprises a lower flange which is bendable from a straight axial position to a radial outward position, and an upper flange having a radial outwardly extending position, wherein the upper flange comprises arm segments extending essentially radial and carrying at their ends pins, wherein the arm segments are arranged to shorten by returning under influence of a shape memory effect to a shortened condition in which the arm segments have a zig-zag-like shape.~~

55. (Previously Presented) Prosthesis according to claim 31, wherein the prosthesis further comprises one, two or more valve leaflets arranged inside the ring-member.
56. (New) Prosthesis according to claim 31,  
wherein the ring member comprises a lower flange which is bendable from a straight axial position to a radial outward position, and an upper flange having a radial outwardly extending position, and  
wherein, in the first position, the anchoring pins are arranged between the upper and lower flange.
57. (New) Prosthesis according to claim 56,  
wherein, in the first position, the anchoring pins extend from the upper flange in the direction of the lower flange.
58. (New) Prosthesis according to claim 56,  
wherein the upper flange is a radially outwardly extending flange provided with slots;  
wherein the prosthesis further comprises axial fingers inserted through said slots;  
wherein the anchoring pins are provided at the underside of the upper flange adjacent a said slot so that the anchoring pins, kept in the straight first position by the axial fingers inserted through said slots, are allowed to move to the second position upon withdrawal of the axial fingers.
59. (New) Heart valve prosthesis comprising:  
a ring member for attachment to a valve annulus, wherein the ring member comprises a lower flange which is bendable from a straight axial position to a radial outward position, and an upper flange having a radial outwardly extending position, wherein the upper flange comprises arm segments extending essentially radially and carrying at their ends pins, wherein the arm segments are arranged to



shorten by returning under the influence of a shape memory effect to a shortened condition in which the arm segments have a zig-zag-like shape; and

a constriction system having anchoring pins for penetrating into the valve annulus, the anchoring pins being arranged around the circumference of the ring member and adapted to move in a radial inward direction, after the pins have fully penetrated into the valve annulus, from a first position to a second position to press the annulus correspondingly in the radial inward direction.